Volunteer Firemen

MAY

1942

NATIONAL FIRE PROTECTION ASSOCIATION
INTERNATIONAL
60 Batterymarch Street Boston, Massachusetts

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Beg, Borrow, or "Hitch" a Ride to the Volunteer Firemen's Forum at Atlantic City, Wednesday, May 13th

IF you knew that there was to be a big tournament or muster in Atlantic City on Moy 13th, could you get there in spite of the condition of the tires on the old family bus?

Well, there is going to be a red-hot fire fighters' forum down at the famous seaside resort on the second Wednesday of this month. It is a meeting for volunteer firemen held in conjunction with the Annual Meeting of the National Fire Protection Association. This will be the third annual Volunteer Firemen's Forum, scheduled at the request of the members of the N.F.P.A. Volunteer Firemen's Section.

Look the program over as presented on this page and see if you don't want to "ride the rods" if necessary to get there and take part.

Don't think that the Volunteer Firemen's Forum is the only attraction for firemen either on Wednesday or throughout the entire meeting period—Monday through Thursday, May 11-14th, inclusive.

The regular Wednesday afternoon session of the N.F.P.A. Annual Meeting is to be devoted to "City and Country Fire Protection". Here's a list of the topics for this afternoon meeting:

Firemen's Training, Committee Report on Training Auxiliaries.

Municipal Fire Apparatus. Committee Report. Emergency Apparatus Standards.

Farm Fire Protection. Standards for Rural Fire Apparatus.

The Fire Alarm System in Air Raids. Report by Committee on Signaling Systems.

Utility Operation During Air Raids. Round Table Discussion covering (a) gas, (b) electricity, (c) telephone, (d) transportation.

If the above is not enough to make you want to come to Atlantic City on May 13th, just take a squint at what is scheduled for that evening! The entire evening will be devoted to motion pictures on fire protection subjects such as newsreel shots of the big fires of the past year. Perhaps some of the fires at which your department worked will be shown. Other motion pictures on fire protection subjects will be run. These pictures are sponsored by the N.F.P.A. Committee on Visual Education. This program always is one of the highlights of the N.F.P.A. Annual Meeting.

Plan Now to Attend the 46th N.F.P.A. Annual Meeting

The 46th N.F.P.A. Annual Meeting will be held at Haddon Hall Hotel, Atlantic City, New Jersey, May 11-14th. Without question this will be the outstanding fire protection and fire defense meeting held in the United States during this war year of 1942. It is a meeting that no fire department members alert to the problems of the hour will want to miss.

The entire day Wednesday, May 13th, is to be devoted to topics of special interest to fire department members. Firemen, whether N.F.P.A. members or not, will be admitted to sessions of the N.F.P.A. Annual Meeting without payment of the registration fee.

The detailed Annual Meeting program was sent to N.F.P.A. member fire departments with the April News Letter. Individuals should write for a meeting program to the N.F.P.A. Executive Office, 60 Batterymarch St., Boston.

VOLUNTEER FIREMEN'S FORUM
9:30 A. M., May 13, 1942
Dr. David J. Price, Presiding

Introductory Address by Chairman Price, U. S. Department of Agriculture, Vice-President of the N.F.P.A.

Report on VOLUNTEER FIREMEN magazine, Warren Y. Kimball, Associate Editor.

Organizing Volunteer Fire Brigades for the Protection of Industrial Plants, Emmett Cox, Assistant Director, Indiana Fire Service Training Schools.

Auxiliary Water Supplies for Fire Department Service, R. M. Cadman, Superintendent, Engineering Dept., Schedule Rating Office of New Jersey.

Apparatus for the Volunteer Company, A. H. Gent, Office of Chief of Engineers, U. S. Army.

Auxiliary Firemen in the Volunteer Department, Chief J. W. Just, Maryland State Fire Coordinator.

Although Wednesday the 13th is firemen's day at the Annual Meeting, there will be a lot going on during the other days that many firemen will want to take in. Needless to say, much of the program will be devoted to matters of fire defense with each subject handled by some outstanding expert. For example, Monday evening Dean James M. Landis, Director of the U. S. Office of Civilian Defense will address the Association. This address is to be broadcast in part over a national radio network. Also the same evening Vice Admiral R. R. Waesche, Commandant of the U. S. Coast Guard, will speak on the subject of "Port Fire Safety". Any firemen living near the seaboard will appreciate the importance of the protection of the seaports through which all of our war materials are sent to the world's battle fronts. As the U. S. Coast Guard is charged with the responsibility of port protection throughout the United States—including protection against fire—there can be little doubt that Admiral Waesche's talk will be of prime interest to fire fighters and other fire protection men.

Typical of other sessions that many firemen will want to attend is the Fire Defense Forum starting at 2:15 P.M. Tuesday with the following program:

Fire Department Problems in the War Emergency. Chief Andrew Callahan, President, International Association of Fire Chiefs.

Lessons from British Air Raid Fire Experience. Edgar A. Kirby, District Officer, London, England, Fire Brigade.

Air Raid Fire Precautions on the Pacific Coast. Loren S. Bush, San Francisco.

English Factories During an Air Raid. Capt. Donald S. Leonard, Lansing, Mich., Member American Civil Defense Mission to England, 1941.

The Tuesday evening session starting at 8:15 P.M. will be another program of special interest to firemen. This is what is planned:

Priorities for Fire Protection Equipment. George Angell, Fire Protection Section, Priorities Division, War Production Board.

Emergency Substitutes in Fire Protection. John A. Neale, Chief Engineer, Underwriters' Laboratories, Inc.

Public Water Systems in the War Emergency. Harry Jordan, American Water Works Association.

Fire Safety in Defense Housing. Speaker to be announced.

Volunteer Firemen

Volume 9 Number 5

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WATER is the backbone of fire defense. That is why a fireman has reason to be interested in the water supplies available for fighting fires in his home town. The front cover picture this month (courtesy Chicago Bridge and Iron Company) shows a "watersphere." This is one of the latest designs for water supply tanks. The "watersphere" has the advantage of design in that the tank itself serves as the supporting tower structure. Also the fluctuation of water pressure is much less marked than with the old type standpipe. For example, the 150,000 gallon water tank shown in the cover picture (located at Kent, Ohio), has a low water level of more than 103 feet, assuring a minimum static pressure of almost 45 pounds.

Waterspheres and other modern standpipes such as the one illustrated are useful in both large and small communities. In the large communities such tanks may be used to give increased pressure in hilly sections of the community where normal water pressures are inadequate. In small communities the watersphere may provide the primary water storage needed at a good gravity pressure.

FIRE protection authorities and other safety interests who have been working to control the fire and accident hazards resulting from promiscuous use of fireworks by the public have reason to be encouraged with the progress being made in securing legislation to control the use of fireworks.

The "Fifth Annual Summary of Fourth of July Injuries" recently released by the American Medical Association shows a 53 per cent reduction in hospitalized fireworks injuries during the past year and a total reduction of 71 per cent since 1937. Greatest single improvement was in New York (model state fireworks law first operative in 1941) where casualties were reduced from one death and 1,114 injuries in 1940 to no deaths and 105 injuries in 1941.

Rhode Island, a state with a notoriously bad fireworks casualty record, became the first New England state to adopt adequate legislative control over this problem when a bill based on the N.F.P.A. Model State Fireworks Law was enacted March 19th, 1942.

The states of Maine, Massachusetts, Vermont, and Virginia recently have banned the use of fireworks for the duration of the war.

IT SEEMS almost trite to say that "without fire hose the finest fire department would be right back in the bucket brigade era." A moment's reflection will convince almost anyone that a modern pumper and a powerful water supply would be almost useless without serviceable fire hose. Yet, in this present war emergency, the manufacture of hose for fire department use must be drastically curtailed because of the shortage of rubber for linings and shortages of other critical materials. This means that it is up to each fire department to make their present fire hose last until the emergency is over. Of course, some fire departments located in strategic defense areas may get some single-jacketed fire hose in conjunction with auxiliary pumpers that may be furnished by the Office of Civilian Defense. However, even where such hose may be supplied it will not be of a type equal to the standard hose with which fire departments are familiar. It is expected to be emergency hose primarily for use with the auxiliary equipment.

The April issue of VOLUNTEER FIREMEN reported an order by the War Priorities Board calling for a reduction in the quota of rubber permitted in fire hose manufacture of from 180 to 40 per cent of the pre-war figure. We have also recently reported on the proposed use of couplings largely made of malleable iron as a substitute for brass. These facts should be enough to cause every fire department to do the following things: first, to make a detailed inventory of the condition of all hose in its possession; and, secondly, to make sure that it is doing everything possible to make its present hose give good service until replacements can be made, probably after the war.

Full information as to the best methods for caring for both hose and couplings are contained in an N.F.P.A. booklet, "A Fire Department Manual on Hose and Hose Couplings," 40 pages, 25 cents. (See page 15.)

LAST month 11 departments with 119 men joined the Volunteer Firemen's Section for the first time. Sixty-one departments with 1,041 men renewed membership. This makes a total enrollment of 749 departments and 14,994 men. The following departments are newly enrolled:

First Auxiliary Fire Company of Little Rock, Little Rock, Arkansas.

Firemen's Association of Menlo Park Fire District, Inc., Menlo Park, California.

Williamsville Fire Engine Company, Goodyear, Connecticut.

Effingham Volunteer Fire Department, Effingham, Illinois.

Urbana Fire Department, Urbana, Indiana.

Hingham Fire Department, Hingham, Massachusetts.

Liverpool Fire Department, Liverpool, New York.

Delaware Engine Company No. 2, Port Jervis, New York.

U. S. Naval Air Station, Quonset Point, Rhode Island.

Wellsburg Volunteer Fire Department, Wellsburg, West Virginia.

Town of Sackville, Sackville, New Brunswick.

THE estimated U. S. fire loss for March, 1942, according to the National Board of Fire Underwriters is $30,505,000, a decrease of $966,000 from the same month last year. Losses for the first three months of 1942 were $12,846,000 above the same period in 1941. These figures are based on notices of incurred loss received by insurance companies, members of the board, plus an allowance for unreported and uninsured losses. The following table shows the losses for the first three months of 1941 and 1942.

	1941	1942
January	$26,470,000	$35,565,000
February	26,102,000	30,819,000
March	31,471,000	30,505,000
Total 3 months	$84,043,000	$96,889,000
Total 1941	$322,357,000	

Roofing to be tested is laid on a typical section of roof structure in accordance with the manufacturers' specifications.

First application of flame to the roofing in an intermittent flame test. Flames applied for two minutes "on" and two minutes "off."

Condition of the roofing is observed between intermittent applications of flame.

ROOFS TO WITHSTAND FIRE!

MORE THAN TWENTY-FIVE MILLION SQUARES OF ROOFING WERE LABELED BY UNDERWRITERS' LABORATORIES, INC., LAST YEAR

COMBUSTIBLE roofs have been a leading factor responsible for more than one half of the conflagrations in the United States since 1900. On the other hand there have been instances where fire, sweeping across a section of a city, has been stopped when it reached an area where fire resistive roofs were in the majority.

There are many different kinds of fire resistive roofing. These include asphalt-impregnated shingles, surfaced with mineral granules, and asphalt-impregnated roofing in rolls. Also shingles made of asbestos and cement. There is roofing built up of asphalt or tar-impregnated felts with layers of asphalt or tar between—the top surface may be covered with gravel. There are also tile shingles of clay; natural slate; and copper and other metal roof coverings.

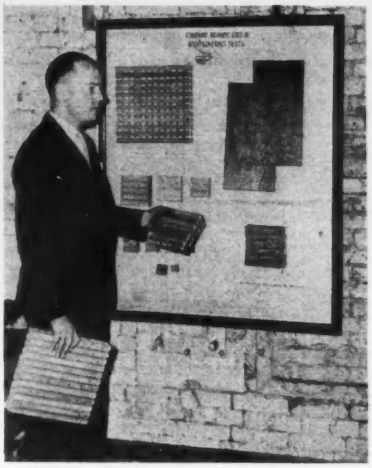
The various types of roofing mentioned may be roughly divided into two kinds. The roofing usually found on dwellings and other buildings with steep roofs is known as "prepared" roofing; that is, ready for application. Individual shingles, strips of shingles, and also long sheets of roofing come in this group. These are made with asphalt-impregnated felt, asbestos-cement, or sheet metal protected with asphalt and asbestos.

The second type of roofing is generally used on nearly flat roofs such as those of stores, factories, hotels and office buildings. It is "built-up" roofing; that is, the roof is built on the job. Rolls of asphalt or tar impregnated felt in long sheets are cemented down in layers with molten asphalt or

This shows the last flame application in the intermittent flame test. It can be seen that the roof is getting a severe tryout.

In order for a sample of roofing to pass the test, flame must not break through the under side of the roof deck as shown in this view.

A long roof section is used to test whether flame spreads over the roofing with a 12-mile-an-hour wind blowing.



Standardized brands of various sizes and types are used for the uniform testing of different classifications of roofing.

Brands used in tests are ignited in gas flames meeting definite specifications to assure that each roofing sample tested gets the same treatment.

tar, and then usually a layer of crushed rock or mineral forms the top surface.

It is obvious that all these forms of roofing do not provide the same amount of fire protection as roofing varies in weight and in the fire resistance of the materials used. For example, felt may vary in composition, weight, density and strength. The asphalt may vary in flash point and ductility. The mineral surface may vary in type, quantity, distribution and adhesion.

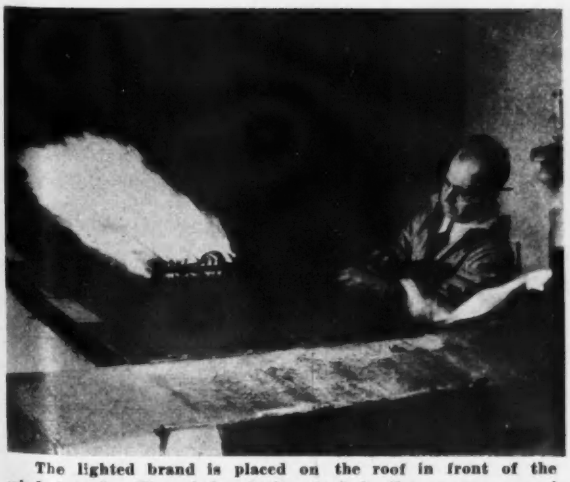
Underwriters' Laboratories Inc. tests various roofings submitted by the manufacturers and classifies these roofings according to the protection the roofings provide. Class A roofing is for use where the fire exposures may be severe, Class B for protection against a moderate fire exposure, and Class C for light fire exposure. Exposure means danger from heat, flame and brands.

When a manufacturer submits a roofing material to the Laboratories, a part of a roof is built and covered with the roofing according to the manufacturer's directions. The roof structure is made of wood, like the roof of an average home. This section of roof is then placed on an inclined framework before a wind tunnel. In the mouth of the wind tunnel is a three-foot wide gas flame. This flame is blown on the roof's surface intermittently, two minutes on and two minutes off. This continues for an hour for Class A roofing, one half hour for Class B roofing, and a shorter time for Class C roofing. The test indicates what protection the roofing gives to the wood structure underneath. At the end of the period there should be no flaming on the underside of the roof section.

Tests are also made with fire brands of wood measured for size and shape.

The burning brands for testing Class A roofing are larger than those for Classes B or C. These brands are placed on a roof section and allowed to burn themselves out. They should not cause flame to spread on the underside of the roof. These tests are conducted under a 12-mile per hour wind. Another test indicates the extent to which wind fanned flames will spread over the roof surface.

The accompanying material has been digested from a transcription of a radio program broadcast over station WCFL, Chicago. This was Program No. 16 in an educational series entitled "On the Safe Side," describing the work of Underwriters' Laboratories, Inc. in testing materials for fire and life safety. Program No. 16 was devoted to a discussion of fire resistive roof coverings and to the tests that the Laboratories make to determine the fire resistance of manufactured roofing materials. Last year Underwriters' Laboratories, Inc. placed labels of approval on more than 25,000,000 squares of Class C prepared roll roofing and shingles of the kind usually used on homes. Each "square" is one hundred square feet of roofing. Taking part in the program were John Neale, Fire Protection Engineer, and C. G. Smith, Service Engineer, both of Underwriters' Laboratories, Inc., and Paul Gerhardt, Jr., City Architect of Chicago.



The lighted brand is placed on the roof in front of the wind tunnel. The wind velocity used is the average annual figure for the City of Chicago.

Small brands are placed on the most vulnerable spots of the roof covering to determine what would happen if embers landed on such spots in an actual fire.

Safety Practices

FOR FIRE DEPARTMENTS

BY R. J. DOUGLAS
Firemanship Instructor, School of Technical Training, Oklahoma A. &. M College

FIREMEN must endure hardships in burning, smoke-filled buildings and must withstand exposure under the most adverse weather conditions. Every part of the fireman's active duty requires courage, drive, strength and the ability to see a tough job through to the end. These valuable characteristics are sometimes mistaken for a careless disregard for safety but the foolhardy or rash individual is not dependable and does not make a desirable member of a company.

To do consistent, dependable work a fireman must be safety minded. He must be alert for the safety of his fellow workmen and the public and because he is an important part of a valuable team, he must not take unwarranted risks himself.

Firemen's Clothing

The matter of wearing proper clothing is extremely important. Boots and a rubber coat or waterproof bunker suit furnish protection from the weather and from heat. A good helmet has saved many firemen from injury when bricks are dislodged or when plaster or glass falls. These outer garments should be worn on every run because a fireman can not do his best work if he is not properly dressed.

During cold weather, warm clothing should be worn under the protective outer garments. Gloves are necessary as a protection against the cold weather and when handling hot metals. Frozen ears are painful and heal slowly. Some kind of protection for the ears, either helmet ear flaps or ear muffs, is necessary during extremely cold weather. The upper end of a woman's silk stocking makes an excellent cap that may be worn under a helmet to cover the ears.

A little foresight will prevent much discomfort and the matter of being dressed properly should be the responsibility of each individual. One man properly dressed for the job is better than three or four men in ordinary street clothes.

Equipment on Apparatus

There is usually a safe and an unsafe place to carry equipment on the apparatus. Thus, the pike pole should be placed on the truck with the point or head toward the front. If carried in this manner the sharp end will not be grabbed as the men are catching the tailboard. For the same reason the hooks of the roof ladder should be placed to the front of the apparatus. Small pieces of old garden hose placed over the points of the ladder hooks and the pike pole offer an additional protection and are easily removed when this equipment is needed. All cutting edge tools should be carried so that their sharp edges are not exposed. Simple shields can be devised when this cannot be done.

Handling Hose Lines

1. Hose lines should not be straddled when making or breaking couplings, attaching nozzles and similar operations. There is always a chance of lines being charged or moved and the man performing these operations cannot always see what other men are doing. This would be especially true when working under blackouts.

2. Hose should be dragged by placing the end around the waist. A better job of dragging can be done this way than if the hose is placed over the shoulder. In such a position the strain is on the small of the back, but with the end around the waist the strong leg muscles can take up most of the strain and reduce chance of injury.

3. Nozzles should be opened and closed slowly. If the nozzle is opened suddenly, the recoil may be enough to tear the playpipe out of the nozzlemen's hands. Sudden closing of the nozzle creates a violent water hammer in the hose line and may blow off couplings or burst hose. This rule will be forcibly impressed on each man during a session where charged lines are laid out. Each will be made to open and close a nozzle several times until he gets the feel of doing it slowly and correctly. A loose hose line under pressure thrashes around and is a very dangerous thing. It may cause serious injury to hosemen and bystanders.

4. Always tie a nozzle in place when it must be held in one position for any appreciable length of time. A hose strap or rope tool may be used for the purpose, or the nozzle may be set in a nozzle holder. This is particularly important with the larger streams and it is a good rule to follow on all lines with nozzle tips greater than 1 inch. With large diameter streams, the work of nozzlemen in holding against the back pressure of the stream is particularly fatiguing and it is easy for the line to slip from their grasp.

5. Do not straddle hose clamps which operate with a lever. There is danger that the lever will fly up and cause a painful and serious injury. In some clamps the lever is pushed down to close it and in others the lever is lifted to close. This advice applies to both types. How likely the lever is to fly up depends on the design of the clamp. There are several types of clamp where this danger is taken care of in the design or which do not use levers. The instructor will cover any special instructions on using hose clamps when demonstrating the particular ones in use in the department.

Handling Ladders

1. Inspect ladders after every run in which they are used. Pay special attention to slivers, weak or worn fly ropes, loose heel plates, loose rungs or tie rods. Keep pulleys and dogs oiled.

2. See that all ladders are equipped with iron heel plates so that they will not slip when raised on hard, slippery surfaces.

3. Front men carrying ladders should be responsible for keeping spectators from being hit by the ladder heels. They may place their free arm in front of the heels so that they can ward off persons who get in the way.

4. Place ladders in windows at the extreme right or left of the opening. If the ladder is placed in the center of the window, insufficient space is left on either side for access. By placing the ladder on the far side of the window as you come in, hose lines can be carried up the ladder and into the window conveniently and safely.

5. Tie the ladder in position with a ladder dog, hose strap or rope tool. This is especially important when operating streams from ladders.

Working on Ladders

An opportunity to practice certain of the following rules will be presented when instruction in working off of ladders is given later in the course of instruction.

1. In general grasp rungs with the hands when climbing ladders. One reason is that the rungs are made of hickory or ash which is less likely to splinter than the fir or spruce beams. However, when carrying a load which re-

quires holding on with one hand only, it is safer to slide the free hand along the beam. Use judgment in applying this rule. For example, in climbing fire escape ladders it is probably safer to grasp the beams. Iron rungs of ladder escapes are exposed to the weather, rust out and become unsafe.

2. Take a leg lock when stopping on a ladder if a safety belt is not worn. By locking in with the leg, both hands are free for other work.

3. Keep hands and feet off the rungs of an extension ladder when the fly is being raised or lowered. This will prevent injury if the fly rope slips.

4. When a short extension ladder is being raised, as for example when one man is doing the work, it is safest for him to reach around the beam when locking manually operated dogs with the fly rope. If he reaches between the rungs to grasp the fly rope to set the dogs he is almost certain to break his arm if the fly slips and the extension comes down.

5. The first man to climb an extension ladder should check the dogs or pawls to be certain that they have locked over the rungs. This check can be made by sight during the day and by feeling in darkness and smoke.

6. Before stepping off a ladder into a window in the dark, make sure that the floor has not been burned out or that the window does not open into a stair well or elevator shaft.

7. Securely tie all hose lines to be operated from ladders before the lines are filled with water.

8. Be alert for falling bricks, glass, slate and other debris when working at the foot of a ladder. Such material often slides down the beam.

9. When ropes or other objects are dropped from a ladder or from a roof, the area below should be clear of all firemen and spectators and the man above should call out a warning before dropping the object.

Handling an Axe Safely

1. Carry an axe in the hand grasped close to the head. Hold the blade away from you and take care not to run into others with it. Do not carry the axe on the shoulder.

2. Carry an axe up a ladder in a belt sheath if possible.

3. Chop with a short swing, not the swing of a lumberman. In the swing, the axe is grasped closer to the head with one hand.

4. When cutting, strike the wood at an angle from the vertical. This causes the blade to cut into the wood and prevents bouncing.

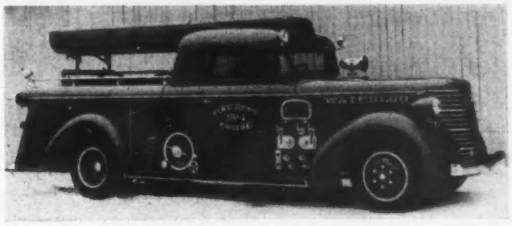
5. When two men are cutting on the same opening in a roof or floor, one takes one side and the other takes the opposite one. As they work, they face away from each other, swinging from the outside as they move backwards.

6. Before swinging an axe, make sure there are no obstructions, such as wires, in the area overhead.

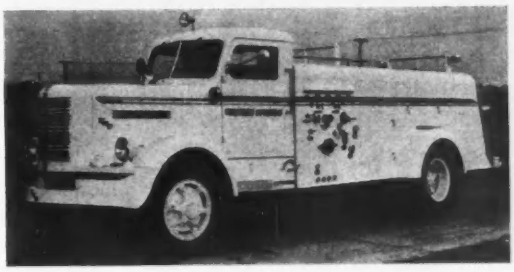
7. In cutting holes in roofs for ventilating, stand to one side of the opening (windward) so that gases taking fire as they come out will not reach you.

SOME RECENT DELIVERIES OF FIRE APPARATUS

A 750-gallon pumper delivered to the fire department of Mount Holly, New Jersey, by Mack Manufacturing Corporation, Fire Engine Division, Long Island City, New York.



A 750-gallon pumper, cab type, manufactured by American - La France - Foamite Corporation, Elmira, New York. Ladders are carried overhead in an enclosed rack. Suction hose is enclosed at the sides of the apparatus.



A 750-gallon triple combination pumper delivered to the volunteer fire department of Western Springs, Illinois, by the Four Wheel Drive Auto Company of Clintonville, Wisconsin. The apparatus carries 1200 feet of 2½-inch hose. All ladders and other equipment are enclosed.

Other Rules for Safety at Fires

1. Know where to find the best air in a smoke filled room. You can often get air to breathe by holding your nose close to the hose stream. Air is frequently better close to the fire than at some distance from it. The best air is usually in the space between knee and waist height.

2. Remember that gasoline vapors are heavier than air and therefore likely to be close to the ground or floor.

3. Know how to find your way out of a smoke filled room. Feel for the cracks in the floor and follow these to the wall. Then follow the wall around to a door or window.

4. Take certain precautions in advancing into a smoke filled room. Carry a line so you can find your way back, or station a man at the door with a light and stay within sight and sound.

5. When gas is burning from a broken gas line do not snuff out the flame. Let the flame burn until the gas can be turned off.

6. The fire department type 2½ gallon soda-acid fire extinguisher usually has a shut off nozzle. These nozzles may be shut off, but only momentarily for the purpose of reducing damage. If the nozzle is shut, the chemical action inside continues to build up gas pressure which may become great enough to rupture. Therefore the extinguisher should be taken to a location where any remaining chemical may discharge without damage and the nozzle reopened.

7. Clean out broken glass in doors and windows. Sharp, jagged slivers are not easily seen and make bad cuts.

8. When tearing shingles off a roof be sure the area below is clear. Shingles of slate, tin and tile catch the air and sail some distance.

9. There are many other safety rules which may be formulated and others that occur to the instructor or members of the company be treated in a drill session. For example, how to lift injured persons and heavy objects without danger of strain. Remember, the safe fireman is the one likely to be on the job when needed.

International

Two employees of the Brooklyn (New York) Union Gas Company are shown preparing to stop up the broken end of a gas main, presumed to have been bombed. The plug has a rubber washer that fits the broken pipe, snuffing out the flame.

International

With heads protected with asbestos helmets and wearing asbestos gloves, Brooklyn Union Gas Company employees practice fighting fires in broken gas mains with a snuffer developed by the British to cope with gas fires during air raids.

What to Do About Broken Gas Mains During an Air Attack

So much conflicting and confusing advice has been given as to turning off gas or keeping it on during air raids that many fire fighters are puzzled. The following brief statement based on data from the American Gas Association (member N.F.P.A.) and other sources is the best advice that we can give to date:

If street mains are damaged by explosive bombs, firemen as well as air raid wardens and others in authority should limit their activities to immediate report, taking all possible measures to prevent ignition, and to evacuate the immediate area where gas is present. Gas companies maintain emergency crews for dealing with such accidents and the work of shutting off gas should be left to them. It is probable that bomb explosions will often rupture water mains as well as gas, thus filling bomb craters with water and cutting off the flow of street gas mains which ordinarily do not have sufficient pressure to force out gas against the head of water in the crater. If gas is burning at a break no attempt should be made to extinguish the flame except by shutting off the flow of gas because the danger from a gas explosion is greater than that from flaming gas.

The American Gas Association recommends that householders make no attempt to shut off the main gas valve. Simply turn off the stove burners that are lit and not the pilot light. If the house is badly damaged, the main gas valve should be shut off. Once the main valve is turned off for any reason, do not turn it on again yourself, call for a trained man. Local gas companies are working out further detailed directions with local defense councils. Watch for these instructions, then follow them.

It is unlikely that incendiary bombs would cause trouble from gas escaping from broken house piping. If the building were set on fire, gas would not add materially to the seriousness of the fire damage. The only practical danger is in the case of explosive bombs which may rupture gas piping. In the case of a direct hit in the ordinary residence it seems unlikely that the presence of gas would cause increased casualties, but there may be situations where impacts would be sufficient to rupture piping but not cause fatal injury to occupants. Gas should be shut off in a building that has been hit by a bomb or where the street mains are ruptured.

If an air raid has occurred in which bombs have fallen close by so that home owners have actually turned off the meter cock, no attempt should be made to turn gas on again until official notification has been received. (Air may have entered the piping to form an explosive mixture.) The gas company will advise when gas pressure has been properly restored in the street main. Occupants should then appeal to plumbers, gas company employees, or other properly qualified persons for assistance in turning on their gas supply. In so far as individual gas users are thoroughly familiar with the operation and lighting of their own gas appliances, the following three steps may serve as a guide in restoring gas service.

First: All gas must positively be turned off before attempting to restore gas service. Go to each gas appliance and see that all burner and pilot valves, keys or cocks, supplying gas to the burners are turned off. Gas range pilots can usually be shut off by a thumb screw or adjustment screw even if there is no pilot gas cock. A few gas range pilots are not so equipped and these are the only exception to the rule "shut off before trying to turn on" the gas.

Second: Go to the gas meter and turn on the inlet gas cock. Watch the dials on the gas meter for at least 10 minutes to see that there is no movement of any hand on the dial. If there is movement, reclose the inlet meter cock immediately and get in touch with a plumber or the gas company. If there is no movement on the dials proceed with step three.

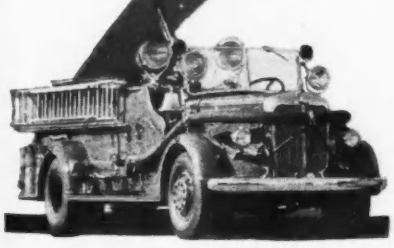
Third: Go immediately to the most distant appliance and turn on one burner, applying a match until the burner lights and burns with a normal flame. If the appliance has a pilot light it should then be lighted. Other gas appliances should then be lighted in the normal manner.

If not entirely certain and familiar with the proper method of lighting and operating your gas appliances, do not attempt these steps but call on the services of a plumber, gas company employee or other qualified person to help turn on the gas.

Industrial gas installations present special problems which must be individually considered. The best advice is to consult the local gas company.

"Looks as if that new Mack's making the boys a mite lazy!"

Mack type 19-1000 gallon.....com... pumper—one of the 6 Macks in the Fire Dep... City of Stockton, Cal. Chief Ralph Thom... ed nothing but Macks since the city's firs... chase in 1933! Several of these Macks hav... long as 57 hours continuously without shu... aft—in the Taylor Milling Fire of 1935.



Have a heart, Hezekiah! If the boys have been lucky enough to get their hands on the best pumper going—can you blame 'em for letting her show her stuff?

You see, Hezekiah, that Mack isn't just a re-vamped truck chassis. It's been built from the ground up to perform a specific job with the highest possible performance.

Every single vital part in that pumper has been made under rigid Mack supervision—from the molten metal stage up—in Mack factories. That's one of the important reasons why Mack pumping apparatus has superior power, superior stamina, superior dependability.

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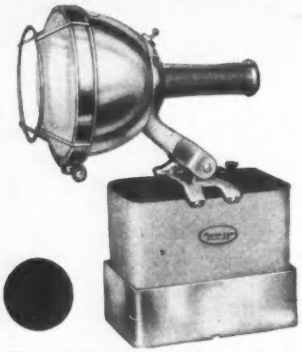

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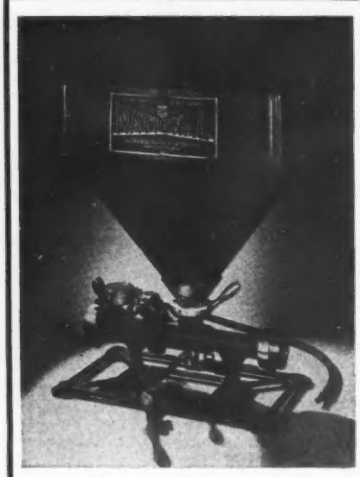

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British Firemen Want To Replace Stirrup Pumps

THE March 1942 issue of FIRE, the official journal of the British fire service, contains several observations on the subject of handling incendiary bombs that should be of interest to American and Canadian fire fighters. The item in FIRE says:

"Has it occurred to anyone in authority that instead of concentrating all the fire fighting personnel in fire stations it would be a good idea to send some members of it out in light, swift, lorries (trucks) carrying a knapsack first-aid fire pump for each member of the crew? With one man to each first-aid pump, with its five gallons of water, these crews could do excellent work directly a shower of incendiary bombs fell. They could be on them far quicker than the best trained fire-guards (fire watchers), with their time-wasting and labor-wasting stirrup pumps, and speedily knock them out.

"The Ministry of Home Security has now come to the conclusion that the necessity for speed in dealing with a number of bombs falling simultaneously on a target, and adjoining risks, requires the use of jets and not spray from stirrup pumps. This in itself points to the fact that the stirrup pump—which requires almost as many people to put it to work as a motor pump does—is not speedy enough; especially when the incendiary bombs are released in large numbers from containers. Trained firemen, each with a knapsack pump, are the only solution of this problem."

As has been previously reported in VOLUNTEER FIREMEN, the fire advisory committee, that has been helping the U. S. Office of Civilian Defense plan the defense of the United States against air attack, has long recognized the limitations of the stirrup pump. This pump is to be used only by civilians where a lack of critical materials makes it impossible to provide pump tank extinguishers. The OCD plans to provide both auxiliary fire departments and neighborhood fire watchers with a special pump tank extinguisher (4-gallon capacity) that will be capable of one-man operation and will have its own water supply.

Fire departments also have been advised to make use of existing pump tank and back-pack extinguishers (5 gallon capacity) to deal with small incendiary bombs.

The British fire fighters' opinion of the importance of using a jet of water rather than a spray in fighting incendiary bombs also bears out the opinion of many American fire defense authorities. It is unfortunate that so much advice has been given the public on the reputed importance of using a fine spray on bombs. What is actually needed is a heavy spray or stream with enough wetting power to speed up the burning of the bomb so as to get rid of it. The nozzles on most stirrup pumps and many of the back-pack forest fire pumps do not produce a sufficiently heavy spray for most effective work on incendiary bombs. Where the bombs fall in considerable numbers, as is the case with the small incendiaries, it is most important to dispose of them as quickly as possible. As a matter of fact, British fire fighters have reported that they turn a hose stream on the bomb and wash it away. When it is necessary to fight the fire bomb with hand equipment they use a heavy spray on the bomb. Such spray does not cause too much spattering effect and yet does cause the bomb to burn up quickly. Any fire in surrounding materials may be then put out with a solid stream.

Improvising a Stirrup Pump From a Bilge Pump

N.F.P.A. Member E. D. Wright, of the Bureau for the Prevention of Explosion and Fire on Motor Boats, New York City, suggests that while it may be difficult to buy new stirrup pumps due to the shortages of critical materials, there are many small hand pumps existing that could be converted into stirrup pumps for fighting incendiary bomb fires.

Mr. Wright reports: "It occurred to me that there are hundreds of thousands of boat pumps such as are used for pumping out dinghies now in the hands of boat owners. Taking this for a basis of experimenting I made a stirrup pump out of materials that can be bought out of stock and odds and ends. The only piece that a layman would have to make being to have threads cut on the long pipe as shown in the photograph."

The parts needed, Mr. Wright explains, are a male and female connection, the female hose thread to screw on the garden hose thread pump outlet and the male iron pipe thread which is screwed to a tee. Horizontally, at the other end of the tee, is a nipple, pipe thread at one end and garden hose thread at the other to which a desired length of hose can be attached. On the end of the hose is attached a small garden hose nozzle.

On the bottom of the tee is a piece of pipe running downward which screws into another tee on which two capped pieces ten inches or longer are screwed to form the brace on which the feet rest while operating the pump.

To give a good stream considerable force is necessary which may make it

desirable to enlarge the operating handle of the pump. Accordingly the rivets can be taken out of the handle and the holes enlarged so that a 3/8-inch cross rod may be inserted so as to extend at least three inches on either side of the handle. This cross rod should be provided with wooden handles or else padded with a handkerchief or other cloth when the pump is in operation.

The garden hose nozzle is readily obtainable and has the advantage of permitting the operator to use either a spray or solid stream. A heavy spray is used on the actual bomb and the solid stream is used to control any fire that the bomb may have started in surrounding combustibles.

While one person can handle this pump in an emergency, to use it most effectively there should be one man to work the pump, another to direct the stream, and a third to keep the bucket supplied with water.

STATE DEFENSE NOTES

Indiana. Last month was proclaimed "Victory Clean-Up Month" by Governor H. F. Schricker of Indiana, to give impetus to a state-wide program for salvage and spring clean-up. A suggested home inspection blank was distributed to all fire chiefs in the state by State Fire Marshal Clem Smith. A group of more than 100 insurance men served as fire prevention speakers before various groups such as women's organizations. The campaign was conducted under the auspices of the State Defense Council and the Fire Marshal Department.

New Hampshire. Governor Blood recently announced the appointment of A. Clifford Hudson, chairman of the Auxiliary Firemen's Division of the State Council of Defense, as fire coordinator for the council.

FIREMEN'S TRAINING NOTES

Georgia. The eighth annual session of the Georgia State Fire College will be held at No. 7 Fire Station, Atlanta, May 13-15, 1942.

Iowa. The 18th Iowa Fire School is scheduled for June 23-26, 1942, at the Iowa State College, Ames.

Kansas. The Fire School Committee of the Kansas State Firemen's Association has recently issued in mimeographed form a 9-page suggested outline of procedure for training auxiliary firemen indicating subjects that may be taught.

Kentucky. The dates for the 1942 Annual School for Firemen on the University of Kentucky campus have been set for July 28-31, 1942.

New York. A Fire Chiefs Institute is scheduled to be held in Schenectady, May 18-20, 1942.

Pennsylvania. Qualified fire school instructors in the State of Pennsylvania have received from Arthur W. Espey of the Public Service Institute, Harrisburg, outlines suggesting two courses of training for regular fire department members. These are a fifteen session course in Fundamentals of Fire Fighting, and a ten session course in Advanced Fire Fighting Techniques. Each session is expected to average three hours training or a total of 75 hours work to complete the two courses.

Instructors also were given information regarding plans to bring the State's training program for auxiliary firemen into line with the recommendations of the Office of Civilian Defense.

NEW TEXTS

"The Advanced Auxiliary Fireman," 253 pp, illustrated handbook, originally edited by V. J. Wilmoth, has been issued in a revised edition by W. L. Scrivener, editor of "Fire Protection and A.R.P. Review." The publication is a later companion volume for "The Auxiliary Fireman," which has been widely distributed in Great Britain. The book is published by Lomax, Erskine & Co. Ltd., Aldwych House, London, W. C. 2. Price 3/10. The handbook contains 28 chapters on the wartime fire service in Britain.

•

The Institute of Local and State Government, University of Pennsylvania, has prepared for the State Council of Defense an "Instruction Manual for Basic Courses, U. S. Citizens' Defense Corps of Pennsylvania."

•

"Bombs, What to Do and When to Do It—Information for the Householder," Published and Distributed by the Board of Fire Underwriters of the Pacific, San Francisco, Calif. This 8 page folder has been approved by the Pacific Coast Association of Fire Chiefs and the state defense councils of Washington, Oregon, and California.

His name is FIRE and uncontrolled this major saboteur can do more damage than any other element. You can kill paint, oil, lacquer, alcohol and electrical equipment fires in split seconds with C-O-TWO*.

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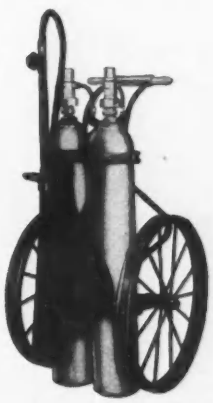

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PACIFIC COAST AGENTS:

Michigan Legislature Enacts Laws Covering Rural Protection

THE Second Special Session of the Michigan Legislature, recently adjourned, passed two laws to advance rural fire protection. The first, designated as H-9, authorizes creation of rural fire protection districts, maintained by special assessment, in more than one township. Administrative control is vested in officials of the township in which the larger portion of the district is located. Bill S-8 authorizes boards of supervisors in counties of over 230,000 population (Kent, Oakland, and Wayne Counties) to establish by two-thirds vote a county fire department for the benefit of rural areas.

NEW TEXTS

The State Defense Council, Indianapolis, Indiana, has issued a 33 page, mimeographed bulletin outlining a "General Course on Civilian Defense." Five lessons outlined are: 1. The citizen and his government; 2. The meaning and nature of total war; 3. The three lines of defense; 4. The Office of Civilian Defense and its relation to other governmental agencies; and 5. The training programs.

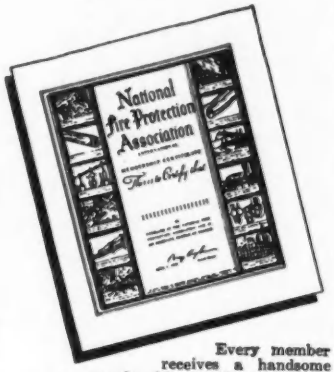
Another civilian defense manual, recently issued in Indiana, is entitled "Protection Against Gases—Teacher's Manual." It is a 32 page mimeographed text issued cooperatively by the State Fire Marshal Department and the Department of Education and covers courses in Gas Defense A and B.

"The Fireman and Electrical Equipment," 45 pages, illustrated Bulletin No. 280, issued by the State Board of Control for Vocational Education, Lansing, Michigan. This booklet contains nine chapters covering the following subjects: 1. Overhead lines; 2. Overhead lines, wires down or sagging; 3. Overhead lines, cutting wires; 4. Underground lines; 5. Electric substations; 6. High voltage customer installations; 7. Low voltage customer installations; 8. Lineman's rubber gloves; and 9. Grounding aerial trucks.

The University of Toronto, University Extension, has issued a 94 page mimeographed "Verbatim Report of Lectures Given at the Firemen's Training School held at the University on November 19-21, 1941." Copies of this report are available at a cost of $2.00 each from the office of Provincial Fire Marshal W. J. Scott, Parliament Buildings, Toronto, Ontario.

The Ontario Fire Marshal's Office has compiled War Emergency Bulletin No. 17, "War-Time Fire Fighting," 32 pages.

N.F.P.A. Membership



Every member receives a handsome membership certificate illustrating the history of fire protection.

N.F.P.A. membership is available to fire companies and fire departments through the Volunteer Firemen's Section of the National Fire Protection Association. Here's the simple plan:

MEMBERSHIP in the National Fire Protection Association costs $10 per year. The Volunteer Firemen's Section is designed to give each fire company the advantages of N.F.P.A. membership.

• As a member, the fire company receives at its headquarters a complete set of all regular N.F.P.A. publications. This includes the official *Quarterly* magazine, as issued.

• As a special service to the Volunteer Firemen's Section, each member fire company is entitled to have copies of the monthly magazine VOLUNTEER FIREMEN sent to the home addresses of 10 firemen.

• If more than 10 firemen want to receive the magazine, an additional $1.00 should be sent in with the membership fee for each fireman in excess of 10 enrolled. Because of the large amount of material mailed to members, not less than $10 can be accepted from any company.

Mine Safety Appliances Company, Pittsburgh, Pa., has recently issued an 8 page, two color illustrated Bulletin G-2, describing the various safety appliances manufactured by the company. Included is information on all-service gas masks, firemen's helmets, floodlights, inhalators, first aid kits, and fire blankets. The new M.S.A. asbestos protective suit also described is illustrated above.

The Chicago Hardware Foundry Company, North Chicago, Illinois, announces their new Sani-Dri Electric Drier for quick and thorough drying of safety equipment such as firemen's boots and gas masks. It is stated that the device will dry a pair of boots in three to five minutes.

DuGas Engineering Corp., Marinette, Wisconsin, has announced a new dry fire-extinguishing compound known as "duMag" developed for extinguishing magnesium and incendiary bomb fires. It is claimed that this material is moisture-resistant, free-flowing, non-abrasive, and that it does not react with burning magnesium. "duMag" has been approved by Factory Mutual Laboratories for use on magnesium fires.

The Four Wheel Drive Auto Co., Clintonville, Wisconsin, has just issued a 24 page, two-color catalogue illustrating the motor fire apparatus manufactured by that company from models as early as 1914 to the latest fire trucks for both urban and rural use. The company will be glad to send any interested readers of VOLUNTEER FIREMEN a copy of this apparatus catalogue.

Harry Levits, 131 West 14th Street, New York, N. Y., offers to readers of VOLUNTEER FIREMEN his attractively illustrated catalogue describing complete supplies for bingo parties. In writing for your copy, address your request to Dept. V. F.

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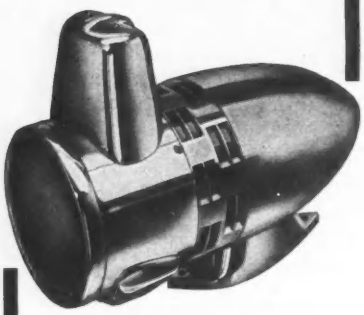

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PYRENE PRIZE LETTER CONTEST

THE first prize winner this month, James Haldane, of London, Ontario, comments on the surprise that came over his buddies at an army camp upon seeing the good work accomplished with a 1-quart fire extinguisher during a fire. He says: "No one can imagine the feeling that came over the men who witnessed the incident. Being a fireman and knowing what an extinguisher would do I was not quite as amazed as most of them. It reminded me of many demonstrations that I have witnessed. I certainly felt quite proud of the way the situation worked out."

You, too, may have a story to tell to show what has been done with approved fire extinguishers. Get the facts down on paper and we will attend to any rewriting necessary to get the story into these columns. The contest is sponsored cooperatively by the Pyrene Manufacturing Company of Newark, N. J. and VOLUNTEER FIREMEN.

FIRST PRIZE—$10.00

JAMES HALDANE,
London Fire Fighters' Association,
London, Ontario

For a Second it Looked Like Good-bye to Everything!

During my period of training at a military camp last July the following incident happened which could have caused a heavy loss to essential materials if it hadn't been for a 1-quart carbon tetrachloride extinguisher. I was detailed to go to the quartermaster stores for supplies. The stores consisted of two large tents joined together which housed everything used to equip the units from ammunition and smoke bombs to straw used to stuff mattresses. Gasoline lamps were used at the camp and fuel for these lamps was kept in cans at the stores. I happened to be there on a very hot morning after several lanterns had been filled near the baled straw. (I've never yet seen anyone fill a lantern that didn't spill some of the fuel). I don't know what ignited the spilled fuel but up she went! For a second it looked like good-bye to everything. I remembered seeing a 1-quart carbon tetrachloride extinguisher in the supply truck parked on the roadway about 20 feet away. I ran for it, pulled it from the bracket, turned the handle and started to work the pump. By the time I reached the base of the fire a good stream was coming from the extinguisher. In a second or two the flames were completely subdued.

SECOND PRIZE—$3.00

N. F. MCNEIL,
Royal Canadian Air Force
Fire Section,
Sydney, Nova Scotia

"Keep 'Em Flying"

When on duty in the aircraft hangar area I noticed an airplane coming up the apron with the port side motor on fire. The pilot stopped the plane and cut off his motors but this did not stop the fire which was getting very close to the large gasoline tanks. I rushed out with a 1-quart carbon tetrachloride extinguisher. With the extinguisher I was able to keep the fire away from the gasoline tanks until the crash tender arrived with large carbon-dioxide extinguishers which soon completed the job of extinguishing the fire. This fire could have been very costly and might have caused loss of life as the aircraft was a bomber which was carrying a load of bombs.

THIRD PRIZE—$2.00

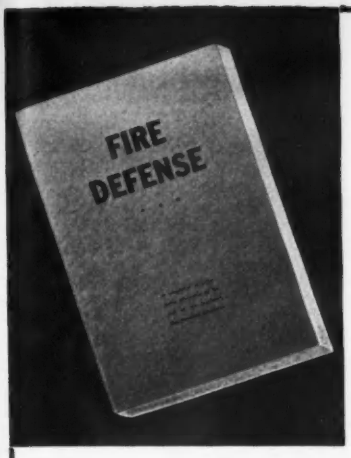
JACK FARRELL,
Menlo Park Fire District, California

Filling Station Pump Explosion

One day while I was putting gasoline into an automobile from an electric gasoline pump, the pump exploded. This was due to a faulty electric motor within the pump. I was very fortunate to be standing on the opposite side from which the pump casing blew open. The hazard was from the burning gasoline in the pump and the danger of two adjoining ten gallon visible type glass container pumps rupturing from the heat. There was also great danger of the automobile catching fire. I immediately grabbed a nearby 1-quart carbon tetrachloride extinguisher and with the help of another fellow who also had a similar hand extinguisher we put the fire out. There was no further property damage beyond that caused by the initial explosion.

CONTEST RULES

1. Contestants in the Pyrene Prize Letter Contest must be members of their local fire department.
2. Letters are to describe actual experiences where an approved fire extinguisher of any make has saved lives or property.
3. Trade names may be used but will be deleted in publication. Publishers reserve the right to edit winning letters to permit publication.
4. Each contestant automatically vouches for the truth of the facts presented from his own or others' experience.
5. Only one letter may be submitted each month.
6. Letters must be legibly written in ink or typewritten on white paper, one side only. Preference will be given to letters not over 250 words in length.
7. Letters received after the 8th day of the month will be judged in following month's competition.
8. Monthly prizes in cash will be: 1st, $10.00; 2nd, $3.00; and 3rd, $2.00.
9. Address contest letters to Pyrene Prize Letter Contest, National Fire Protection Association, 60 Batterymarch St., Boston, Mass.



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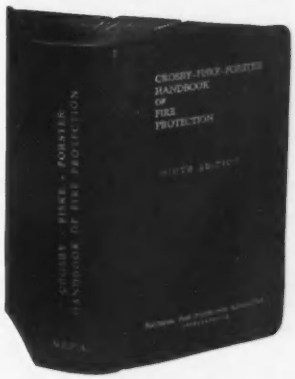

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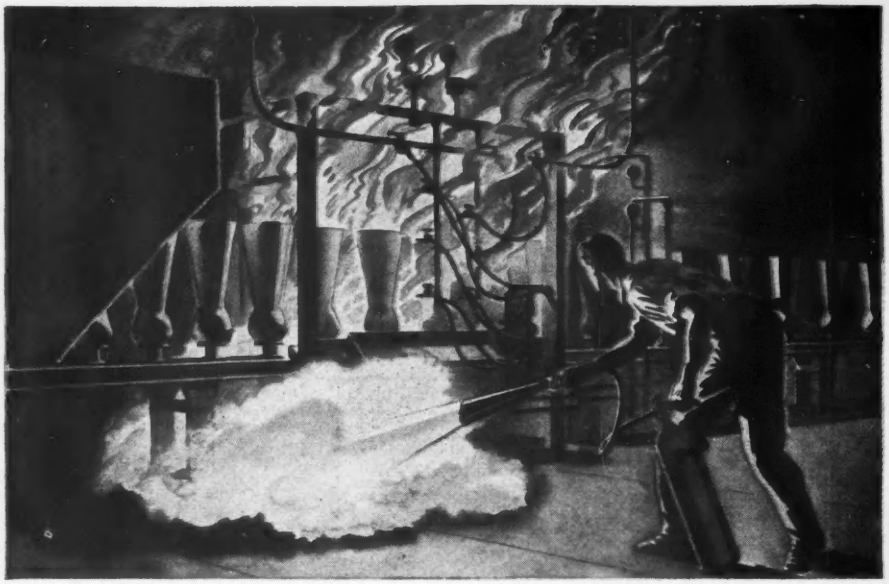

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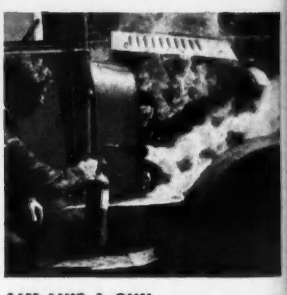

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